

NORLITE, LLC



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July 24, 2014

Ms. Nancy Baker
Deputy Regional Permit Administrator
New York State Department of Environmental Conservation
Region 4
1130 North Westcott Road
Schenectady, NY 12306-2014

RETURN RECEIPT REQUESTED VIA EMAIL

Mr. Kenneth Eng
Air Compliance Branch
United States Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

RETURN RECEIPT REQUESTED VIA EMAIL

Re: Norlite, LLC - MACT Excessive Exceedances Report
Kiln 1: 07/02/14 – 07/24/14
Kiln 2: 07/02/14 – 07/24/14

Dear Sir/Madam:

In accordance with 40 CFR 63.1206(c)(3)(vi), Norlite, LLC (Norlite) is submitting an "Excessive Exceedance Report" for the timeframe of 07/02/14 thru 07/24/14. The attached document explains each of the "malfunctions" for Kilns One and Two.

The results of the investigation concluded a majority of the waste feed cutoffs were a result of the span limit associated with the Scrubber Recirculation flow monitor. The majority of these malfunctions were caused by preventative measures such as rinsing the Mist Pad in order to help maintain proper scrubber differential pressures. After rinsing the Mist Pad, extra water and soda ash solids were placed into the scrubber system which eventually coated the scrubber recirculation flow meter, causing false flow rates. After the meter was cleaned, the Instrumentation and Electrical personnel recalibrated the unit to ensure proper operation. Kiln shutdowns did occur recently on both kilns to clean the scrubber and address any other maintenance items.

Norlite has been working to resolve stack gas span cutoffs in general for almost two years. Norlite has been working with the DEC to install a new optical flow technology to monitor stack gas flow rate. A test unit has been installed on Kiln 1 and RATA tested on November 26, 2013. The final RATA Testing report was submitted along with a proposal for implementing official use of the unit to the DEC on December 24, 2013. Norlite prepared and submitted a permit modification request to the Department on March 25, 2014 and received approval for the permit modification on April 16, 2014. On April 18, 2014 at 1:00 PM, Norlite placed the Optical Flow Sensor for Kiln 1 into certified operation. Since April 18th, there have been no stack gas flow rate cutoffs which have occurred on Kiln 1. The previous stack gas flow rate measuring technology has remained in place for data collection but is no longer part of the AWFCO system. Since receiving approval for the Kiln 1 permit modification, Norlite has ordered and installed an optical flow sensor on Kiln 2. On May 27th, Norlite conducted preliminary testing and data collection on the Kiln 2 unit to further help setup and troubleshooting. Norlite believed to have the issues which were affecting the optical flow sensor resolved but has decided further troubleshooting and testing is needed before a RATA test can be scheduled. Norlite has cancelled the RATA test which was scheduled for July 15, 2104. Once



NORLITE, LLC

Norlite is confident the optical flow sensor is functioning properly; a new RATA test will be setup. Once passing RATA results are obtained, Norlite will prepare a permit modification similar to the Kiln 1 permit modification for submittal and approval for Kiln 2.

Norlite has been working with the DEC to improve LGF delivery and handling at the kilns to address these types of cutoffs. In April 2013, the DEC conditionally approved Norlite's plan to remove the minimum LGF Line Pressure requirement, allow a positive displacement pump to be used for fuel flow control, and allow the use of a recirculation line for use during times when off LGF. The DEC also requested a six month study be conducted without a minimum LGF Line Pressure requirement. The study was started on May 01, 2103 and completed on October 31, 2013. Norlite conducted an extensive search for a positive displacement pump which would allow variable speed control, have tight pump tolerance, and have suitable reliability for long term use. The results of the six month study which summarized over 4 million lines of operational data between the two kilns was submitted to the DEC on December 5, 2013. Based from the results of the six month study, Norlite feels the data supports the removal of the minimum LGF Line Pressure requirement. Norlite has concluded that a positive displacement pump which meets all the needed criteria does not exist. As stated previously, Norlite has acquired the assistance of a process engineering firm to assist in the search for a suitable positive displacement pump and conduct an overall review of the entire kiln feed system to provide a proposal for improving the kiln fuel feed system. The process engineering firm has been supplied with facility drawings, had several discussions with Norlite personnel, and taken a facility tour to better understand the facility operations as they relate to fuel delivery at the kilns. Norlite submitted a proposal provided by SPEC Engineering to the DEC on December 31, 2013 for review and approval. The proposal was to use an automated control loop to control pressures and fuel flow rates at the kilns. On January 13, 2014, the DEC approved the overall concept of the proposal with the requirement that additional engineering specifications be provided by certain dates for ultimate approval of the entire project.

Norlite and SPEC Engineering have completed an extensive hydraulic study of the entire LGF Fuel delivery system to ensure that proper velocities can be maintained throughout the piping system to prevent material buildup and keep the LGF homogeneously mixed. Norlite and SPEC Engineering have also meet with the DEC or spoke with the DEC on the phone several times to go over the hydraulic study as well as keep the Department up to date on the overall progress of the project. Norlite and SPEC Engineering are in the final phase of the engineering design of the overall kiln fuel delivery system, including 3D drawings of the piping to help visualize the overall project. Norlite and SPEC have confirmed their commitment to ensuring the kiln fuel delivery system operates as expected with as few troubleshooting issues as possible. For this to occur, additional engineering has been needed during the current design phase. Norlite met with the DEC in early April to go over the fuel piping layout and other related engineering design aspects. Norlite and SPEC have finalizing the engineering and are preparing bid packages for vendors. The final engineering plans will be submitted shortly for DEC review and approval. When the DEC reviews the engineering design, Norlite will continue with procurement and installation.

As approved by the NYSDEC on February 26, 2008, some reports are being sent electronically.



NORLITE, LLC

Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: tom.vanvranken@tradebe.com.

Sincerely,

Thomas M. Van Vranken

Thomas M. Van Vranken
Environmental Manager

Attachments

ecc: Thomas Killeen, NYSDEC
Joseph Hadersbeck, NYSDEC
Tita LaGrimas, Tradebe
Mike Cruden, NYSDEC
Margaret Moss, NYSDEC
Gerard Burke, NYSDEC
Don Spencer, NYSDEC



NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 1
07/02/14 - 07/24/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
7/11/2014	8:09:54	7/11/2014	8:10:55	0:01:01	151	Malfunction	One of the LGF Ball Valve Became Partially Plugged Which Caused A Fuel Surge to Occur Causing the Instantaneous Upper Instrument Setpoint to be Reached for LGF Flow Span	LGF Flow	Span	The Kiln Operator Cleared the Ball Valve and Re-Established Fuel Flow
7/11/2014	9:53:23	7/11/2014	9:53:51	0:00:28	152	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber pH Span Due to Soda Ash Build Up on the Probe	Scrubber pH	Span	I&E Determined the Sample Loop Was Plugged and Cleaned It
7/14/2014	3:31:14	7/14/2014	3:45:39	0:14:25	153	Malfunction	Baghouse Dust Coated the Optical Flow Sensor Lenses Which Resulted In A Low Signal, Causing A Reading of "0" Which Resulted in the Instantaneous Lower Limit Being Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses. Once Faulted, the Unit Will Not Operate Unit the Lenses Are Cleaned
7/20/2014	3:36:12	7/20/2014	4:33:07	0:56:55	154	Malfunction	Baghouse Dust Coated the Optical Flow Sensor Lenses Which Resulted In A Low Signal, Causing A Reading of "0" Which Resulted in the Instantaneous Lower Limit Being Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses. Once Faulted, the Unit Will Not Operate Unit the Lenses Are Cleaned
7/21/2014	18:50:56	7/21/2014	19:52:21	1:01:25	155	Malfunction	A Sudden Used Oil Flow Rate Surge Occurred Which Caused the CO's to Rise	Carbon Monoxide		Waited for HRA to Come Down While on Used Oil
7/23/2014	8:04:28	7/23/2014	8:55:16	0:50:48	156	Malfunction	A Film Formed on the Lenses of the Optical Flow Sensor While Caused A Loss of Signal Resulting In A Reading of "0" Which Resulted in the Instantaneous Lower Limit Being Reached for Stack Gas Flow Span	Stack Gas Flow Rate	Span	I&E Cleaned the Sensor



NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 2
07/02/14 - 07/24/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
7/5/2014	6:20:17	7/5/2014	6:20:39	0:00:22	207	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	The Kiln Was Shutdown For Maintenance and Cleaning of the Scrubber and the Baghouse System on 7/9/14
7/5/2014	16:24:05	7/5/2014	18:08:01	1:43:56	208	Malfunction	After Rinsing Out the Mist Pad, the Scrubber Recirculation Rate Was Increased to Flush the Rest of the System Which Caused the Instantaneous Upper Instrument Setpoint to be Reached for Scrubber Recirc. Rate Span	Scrubber Recirc. Rate	Span	The Kiln Was Shutdown For Maintenance and Cleaning of the Scrubber and the Baghouse System on 7/9/14
7/10/2014	23:51:45	7/10/2014	23:54:18	0:02:33	209	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Rate Span Due to the Meter Becoming Dirty With Residuals From the Scrubber Cleaning	Scrubber Recirc. Rate	Span	I&E Cleaned and Recalibrated the Flow Meter to Ensure Proper Operation
7/11/2014	0:24:12	7/11/2014	0:25:14	0:01:02	210	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Rate Span Due to the Meter Becoming Dirty With Residuals From the Scrubber Cleaning	Scrubber Recirc. Rate	Span	I&E Cleaned and Recalibrated the Flow Meter to Ensure Proper Operation
7/11/2014	7:21:55	7/11/2014	7:27:07	0:05:12	211	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Chamber Differential Pressure System	Back Chamber Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
7/12/2014	8:14:27	7/12/2014	8:14:50	0:00:23	212	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Rate Span Due to the Meter Becoming Dirty With Residuals from the Scrubber Cleaning	Scrubber Recirc. Rate	Span	I&E Cleaned the Flow Meter
7/12/2014	8:15:32	7/12/2014	8:16:48	0:01:16	213	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Rate Span Due to the Meter Becoming Dirty With Residuals from the Scrubber Cleaning	Scrubber Recirc. Rate	Span	I&E Cleaned the Flow Meter
7/12/2014	15:04:45	7/12/2014	15:05:52	0:01:07	214	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Scrubber Recirc. Rate Span Due to the Meter Becoming Dirty With Residuals from the Scrubber Cleaning	Scrubber Recirc. Rate	Span	After Troubleshooting the Unit, It Was Cleaned Once More and Calibrated to Ensure Proper Operation
7/13/2014	7:12:28	7/13/2014	7:15:24	0:02:56	215	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
7/13/2014	19:19:00	7/13/2014	19:19:38	0:00:38	216	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
7/13/2014	22:48:09	7/13/2014	22:56:18	0:08:09	217	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to the Probe Being Coated with Soda Ash Solids and Causing A False High Reading	Stack Gas Flow Rate	Span	I&E Cleaned the Probe to Ensure Proper Operation



NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 2
07/02/14 - 07/24/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
7/14/2014	1:11:31	7/14/2014	1:12:00	0:00:29	218	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
7/17/2014	1:47:33	7/17/2014	1:48:14	0:00:41	219	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
7/24/2014	2:16:17	7/24/2014	2:23:35	0:07:18	220	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements